

BASF Aktiengesellschaft

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Abstract

The invention relates to a process and apparatus for the isothermal operation of heterogeneously catalyzed reactions involving at least three phases in the form of a gaseous phase, a liquid phase and a solid phase. The invention provides apparatus for carrying out reactions involving a gaseous phase, a liquid phase and a solid phase, comprising (i) a dispersing element for dispersing a gas phase in a liquid phase to generate a reaction fluid, (ii) at least one reactor which possesses an inlet, an outlet and a reactor space bounded by heat-removing walls which are spaced apart substantially uniformly along the main flow axis of the reaction fluid, and which is fitted with catalyst-coated metal fabric, and (iii) a feed line which routes the reaction fluid from the dispersing element to the reactor inlet and is sufficiently short that the degree of dispersion of the reaction fluid does not substantially change in the course of the passage through the feed line.